Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 – 14. Cancelled.

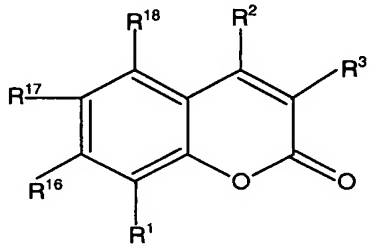
15. (currently amended) A radiation-sensitive element comprising

(a) an aluminum substrate pretreated by electrochemical roughening and thereafter optionally anodizing or applying a hydrophilizing layer or both, wherein the electrochemical roughening is carried out with a hydrochloric acid electrolyte or an electrolyte consisting essentially of hydrochloric acid, and

(b) a radiation-sensitive, free-radical producing coating comprising

(1) at least one free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group,

(2) at least one sensitizer represented by formula (I)



(I)

and that, when exposed to imaging radiation and only in the presence of a co-initiator, forms free radicals,

wherein

(i) R^1, R^{16}, R^{17} and R^{18} are independently a hydrogen atom, a halogen atom, C_1-C_{20} alkyl, -OH, -O-R^4or –NR^5R^6, wherein R^4 is C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and R^5 and R^6 are independently a hydrogen atom or C_1-C_{20} alkyl; or

(ii) R^1 and R^{16}, R^{16} and R^{17}, or R^{17} and R^{18} together form a 5- or 6-membered heterocyclic ring with a N or O heteroatom in one or both positions adjacent to the phenyl ring, or

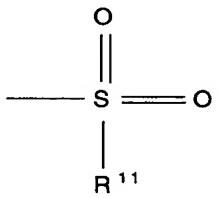
(iii) or R^1, R^{16} and R^{17} form two adjacent 5- or 6-membered heterocyclic rings with an N or O heteroatom in a position adjacent to the phenyl ring;

wherein each formed 5- or 6-membered heterocyclic ring can independently be substituted with one or more C_1-C_6 alkyl,

with the proviso that at least one of R^1, R^{16}, R^{17} and R^{18} is not a hydrogen atom or C_1-C_{20} alkyl,

R^2 is a hydrogen atom, C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and

R^3 is a hydrogen atom,-COOH, -$COOR^7$, -COR^8, -$CONR^9R^{10}$, -CN, C_5-C_{10} aryl, C_6-C_{30} aralkyl, a 5- or 6-membered heterocyclic ring, -CH=CH-R^{12} or

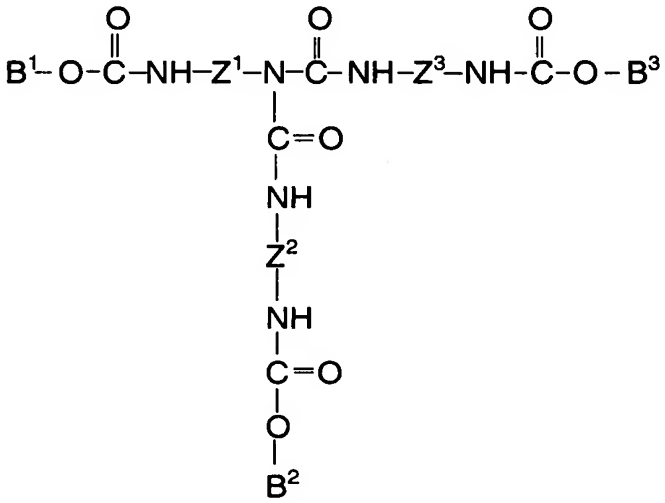


wherein R^7 is C_1-C_{20} alkyl, R^8 is C_1-C_{20} alkyl or a 5- or 6-membered heterocyclic ring, R^9 and R^{10} are independently a hydrogen atom or C_1-C_{20} alkyl, R^{11} is C_1-C_{12} alkyl or alkenyl, a heterocyclic non-aromatic ring or C_5-C_{20} aryl optionally including an O, S or N heteroatom, and R^{12} is C_5-C_{10} aryl or a 5- or 6-membered heterocyclic, optionally aromatic, ring;

or R^2 and R^3, together with the carbon atoms to which they are bonded, form a 5- or 6-membered, optionally aromatic, ring;

(3) at least one onium compound, hexaarylbiimidazole compound, or trihalogenomethyl compound as a co-initiator that is unable to absorb imaging radiation, but in the presence of said sensitizer that is exposed to imaging radiation, forms free radicals;

(4) at least one biuret oligomer represented by formula (V)

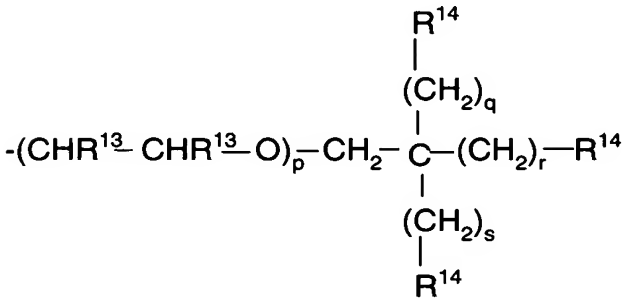


(V)

wherein Z^1, Z^2 and Z^3 are independently C_2-C_{18} alkanediyl or C_6-C_{20} arylene,

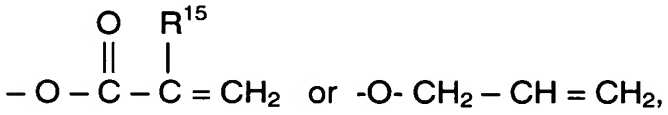
B^1, B^2 and B^3 are independently

$-(CHR^{13}-CHR^{13}-O)_p-CH_2-CH=CH_2$ or a fragment represented by formula (Va)



(Va)

wherein R^{13} is independently a hydrogen atom or $-CH_3$ and p is 0 or an integer from 1-10, each R^{14} is independently a hydrogen atom,



$-O-C-C=CH_2$ or $-O-CH_2-CH=CH_2$,

R^{15} is a hydrogen atom or C_1–C_{12} alkyl and

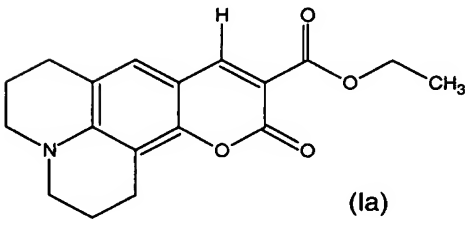
q, r and s independently of each other are 0 or 1,

with the proviso that for B^1, B^2 and B^3 at least one R^{14} is not a hydrogen atom if B^1, B^2 and B^3 are all a fragment represented by formula (Va), and

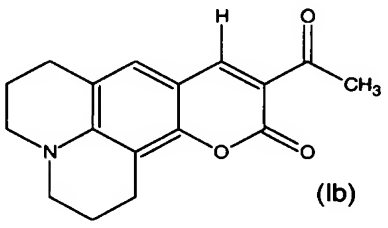
(5) optionally at least one metallocene.

16. (previously presented) The radiation-sensitive element according to claim 15, wherein the radiation-sensitive coating additionally comprises at least one further component comprising free-radical polymerizable monomers, oligomers, or prepolymers that are different from monomers (b)(1) of the radiation-sensitive coating, alkali-soluble binders, thermopolymerization inhibitors, dyes, plasticizers, chain transfer agents, leuco dyes, inorganic fillers or surfactants.

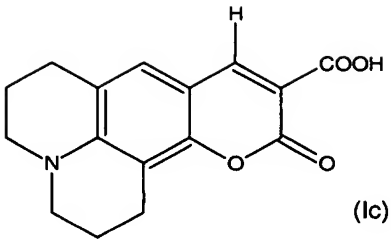
17. (previously presented) The radiation-sensitive element according to claim 15, wherein the sensitizer is represented by formulas Ia–Ih, Ij-Ik and Im-Iq, or mixtures thereof:



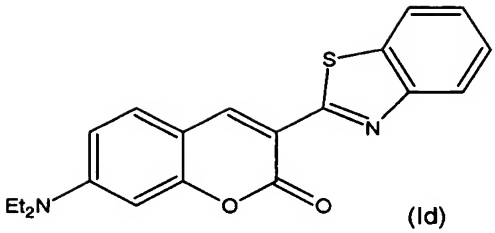
(Ia)



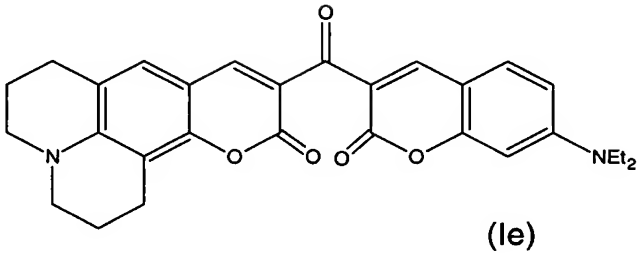
(Ib)



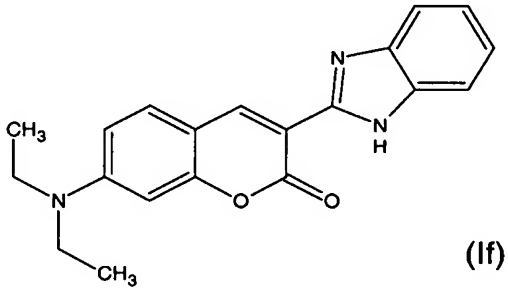
(Ic)



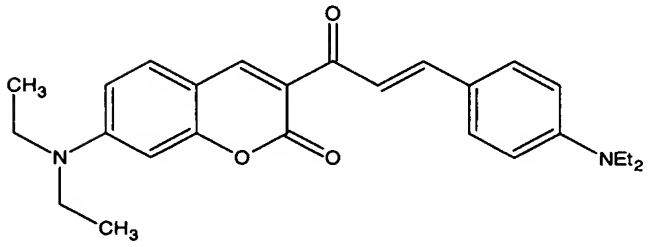
(Id)



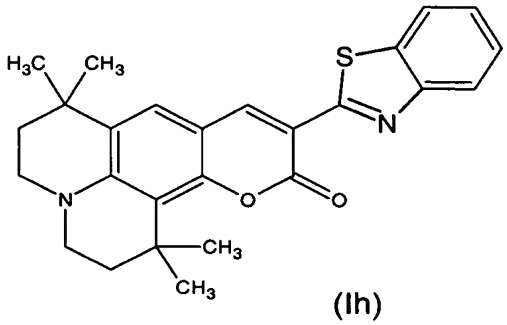
(Ie)



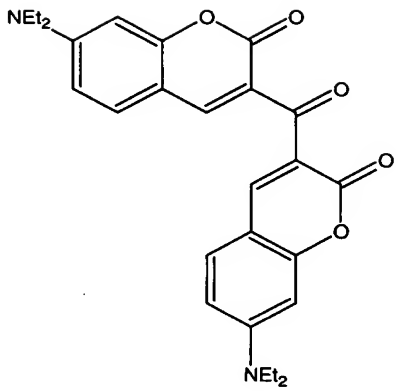
(If)



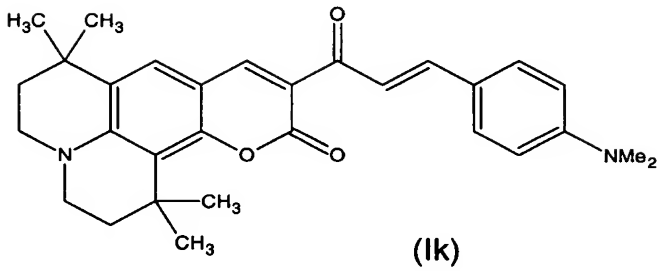
(Ig)



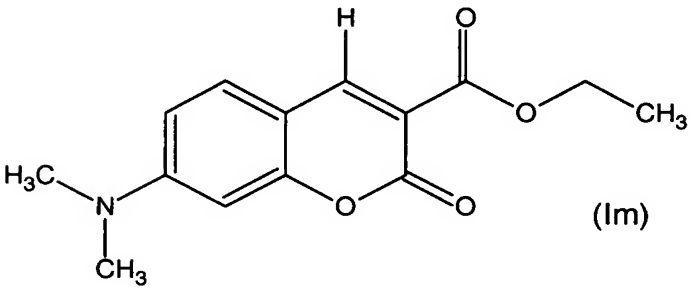
(Ih)



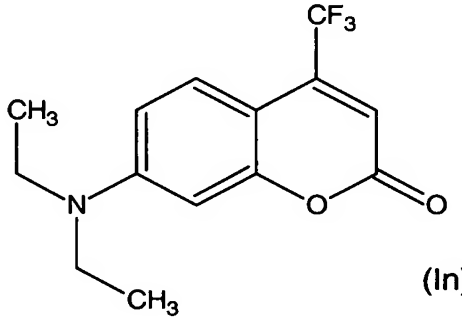
(Ij)



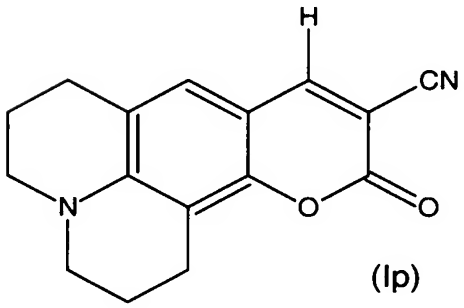
(Ik)



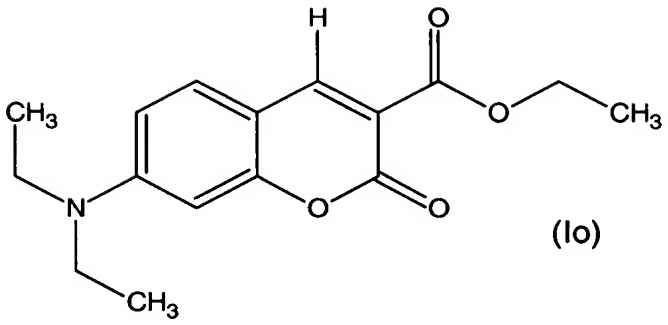
(Im)



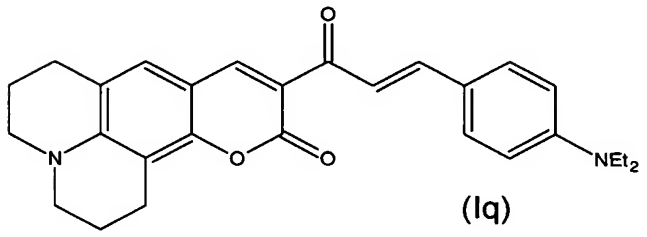
(In)



(Ip)



(Io)

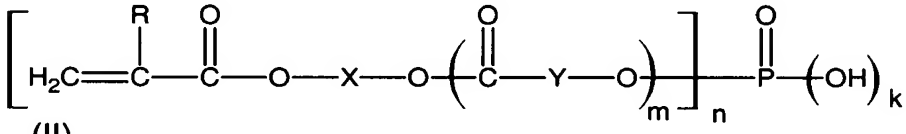


(Iq)

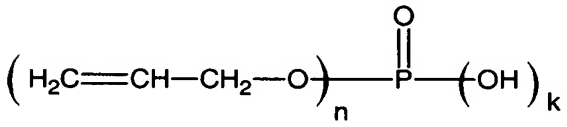
18. (previously presented) The radiation-sensitive element according to claim 15, wherein the coinitiator is an iodonium compound or a hexaarylbiimidazole compound.

19. (previously presented) The radiation-sensitive element according to claim 15, wherein the radiation-sensitive coating comprises a metallocene with a metal of the fourth subgroup as a central atom.

20. (previously presented) The radiation-sensitive element according to claim 15, wherein the free-radical polymerizable monomer with at least one ethylenically unsaturated group and at least one P-OH group is represented by formulas (II) and (III):



(II)



(III)

wherein n is 1 or 2,
m is 0 or 1,
k is 1 or 2,
n + k = 3,
R is a hydrogen atom or C_1-C_{12} alkyl,
X is C_2-C_{12} alkanediyl and
Y is C_2-C_{12} alkanediyl.

21. (previously presented) The radiation-sensitive element according to claim 15, wherein in the biuret of formula (V) each of Z^1, Z^2, and Z^3 are the same.

22, (previously presented) The radiation-sensitive element according to claim 15, wherein an oxygen-impermeable overcoat is provided on the radiation-sensitive coating.

23. (currently amended) A process for the production of an imaged element comprising the steps of:

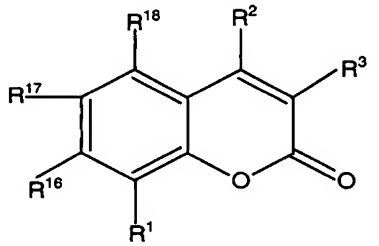
(a) providing a radiation-sensitive element comprising

(1) an aluminum substrate pretreated by electrochemical roughening and thereafter optionally anodizing or applying a hydrophilizing layer or both, wherein the electrochemical roughening is carried out with a hydrochloric acid electrolyte or an electrolyte consisting essentially of hydrochloric acid, and

(2) a radiation-sensitive coating, free radical-producing comprising

(i) at least one free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group,

(ii) at least one sensitizer represented by formula (I)



(I)

and that, when exposed to imaging radiation and only in the presence of a co-initiator, forms free radicals,

wherein

(a) R^1, R^{16}, R^{17} and R^{18} are independently a hydrogen atom, a halogen atom, C_1-C_{20} alkyl, -OH, -O-R^4or –NR^5R^6, wherein R^4 is C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and R^5 and R^6 are independently a hydrogen atom or C_1-C_{20} alkyl; or

(b) R^1 and R^{16}, R^{16} and R^{17}, or R^{17} and R^{18} together form a 5- or 6-membered heterocyclic ring with a N or O heteroatom in one or both positions adjacent to the phenyl ring, or

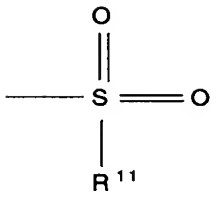
(c) or R^1, R^{16} and R^{17} form two adjacent 5- or 6-membered heterocyclic rings with a N or O heteroatom in a position adjacent to the phenyl ring;

wherein each formed 5- or 6-membered heterocyclic ring can independently be substituted with one or more C_1-C_6 alkyl,

with the proviso that at least one of R^1, R^{16}, R^{17} and R^{18} is not a hydrogen atom or C_1-C_{20} alkyl,

R^2 is a hydrogen atom, C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and

R^3 is a hydrogen atom, -COOH, -$COOR^7$, -COR^8, -$CONR^9R^{10}$, -CN, C_5-C_{10} aryl, C_6-C_{30} aralkyl, a 5- or 6-membered heterocyclic ring, -CH=CH-R^{12} or

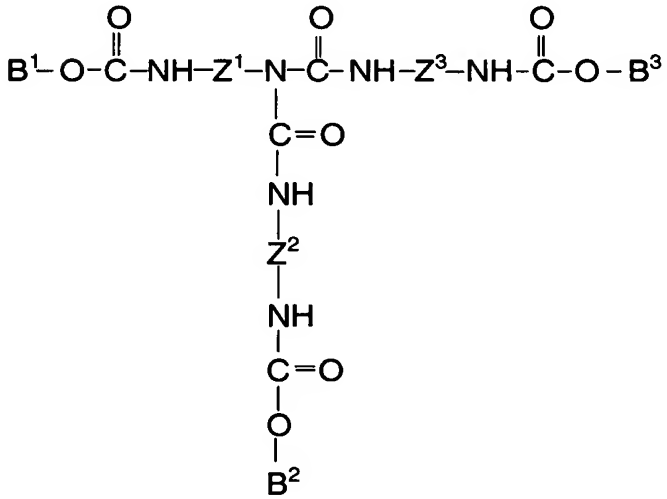


wherein R^7 is C_1-C_{20} alkyl, R^8 is C_1-C_{20} alkyl or a 5- or 6-membered heterocyclic ring, R^9 and R^{10} are independently a hydrogen atom or C_1-C_{20} alkyl, R^{11} is C_1-C_{12} alkyl or alkenyl, a heterocyclic non-aromatic ring or C_5-C_{20} aryl optionally including an O, S or N heteroatom, and R^{12} is C_5-C_{10} aryl or a 5- or 6-membered heterocyclic, optionally aromatic, ring;

or R^2 and R^3, together with the carbon atoms to which they are bonded, form a 5- or 6-membered, optionally aromatic, ring;

(3) at least one onium compound, hexaarylbiimidazole compound, or trihalogenomethyl compound as a co-initiator <u>that is unable to absorb imaging radiation, but in the presence of said sensitizer that is exposed to imaging radiation, forms free radicals</u>;

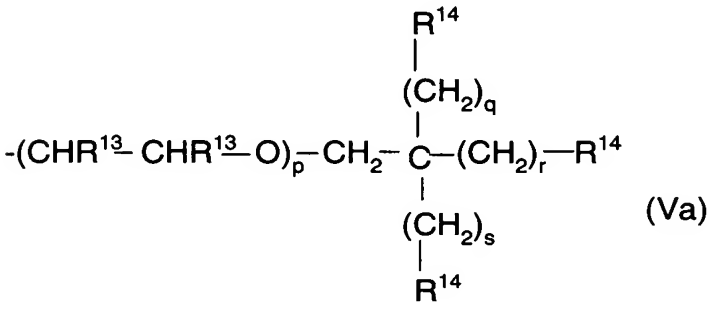
(4) at least one biuret oligomer represented by formula (V)



(V)

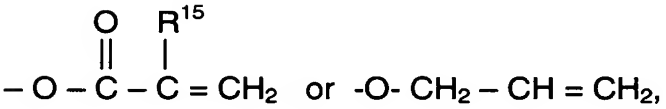
wherein Z^1, Z^2 and Z^3 are independently C_2-C_{18} alkanediyl or C_6-C_{20} arylene,

B^1, B^2 and B^3 are independently $-(CHR^{13}-CHR^{13}-O)_p-CH_2-CH=CH_2$ or a fragment represented by formula (Va)



(Va)

wherein R^{13} is independently a hydrogen atom or $-CH_3$ and p is 0 or an integer from 1-10, each R^{14} is independently a hydrogen atom,



R^{15} is a hydrogen atom or C_1–C_{12} alkyl and

q, r and s independently of each other are 0 or 1,

with the proviso that for B^1, B^2 and B^3 at least one R^{14} is not a hydrogen atom if B^1, B^2 and B^3 are all a fragment represented by formula (Va), and

(5) optionally at least one metallocene;

(b) image-wise exposure of the element with radiation of a wavelength adjusted to the sensitizer present in the radiation-sensitive layer of the element;

(c) optionally heating;

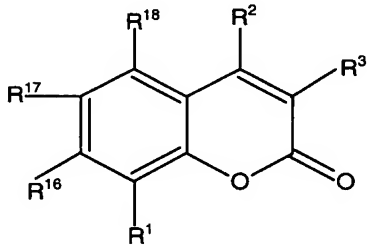
(d) removing the unexposed areas with an aqueous alkaline developer; and

(e) optionally heating the imaged element obtained in step (d) or subjecting it to overall exposure or both.

24. (currently amended) A radiation-sensitive, free radical-producing composition comprising

(a) at least one free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group,

(b) at least one sensitizer represented by formula (I)



(I)

and that, when exposed to imaging radiation and only in the presence of a co-initiator, forms free radicals,

wherein

(1) R^1, R^{16}, R^{17} and R^{18} are independently a hydrogen atom, a halogen atom, C_1-C_{20} alkyl, -OH, -O-R^4or –NR^5R^6, wherein R^4 is C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and R^5 and R^6 are independently a hydrogen atom or C_1-C_{20} alkyl, or

(2) R^1 and R^{16}, R^{16} and R^{17}, or R^{17} and R^{18} together form a 5- or 6-membered heterocyclic ring with a N or O heteroatom, in one or both positions adjacent to the phenyl ring, or

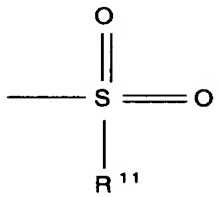
(3) R^1, R^{16} and R^{17} form two adjacent 5- or 6-membered heterocyclic rings with a N or O heteroatom, in a position adjacent to the phenyl ring,

wherein each formed 5- or 6-membered heterocyclic ring can independently be substituted with one or more C_1-C_6 alkyl,

with the proviso that at least one of R^1, R^{16}, R^{17} and R^{18} is not a hydrogen atom or C_1-C_{20} alkyl;

R^2 is a hydrogen atom, C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and

R^3 is hydrogen atom, or-COOH, -$COOR^7$, -COR^8, -$CONR^9R^{10}$, -CN, C_5-C_{10} aralkyl, a 5- or 6-membered heterocyclic ring, -CH=CH-R^{12} or

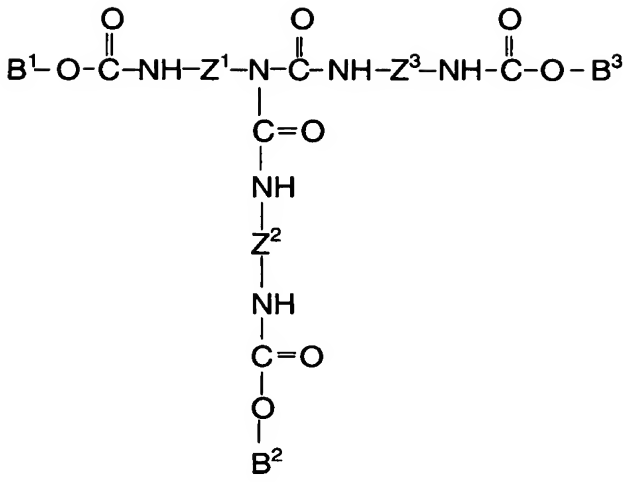


wherein R^7 is C_1-C_{20} alkyl, R^8 is C_1-C_{20} alkyl or a 5- or 6-membered heterocyclic ring, R^9 and R^{10} are independently a hydrogen atom or C_1-C_{20} alkyl, R^{11} is C_1-C_{12} alkyl, or C_1-C_{12} alkenyl, a heterocyclic non-aromatic ring or C_5-C_{20} aryl optionally including an O, S or N heteroatom, and R^{12} is C_5-C_{10} aryl or a 5- or 6-membered heterocyclic, optionally aromatic, ring;

or R^2 and R^3, together with the carbon atoms to which they are bonded, form a 5- or 6-membered, optionally aromatic, ring;

(c) at least one onium compound, hexaarylbiimidazole compound, or trihalogenomethyl compound as a coinitiator that is unable to absorb imaging radiation, but in the presence of said sensitizer that is exposed to imaging radiation, forms free radicals;

(d) at least one biuret oligomer represented by formula (V)

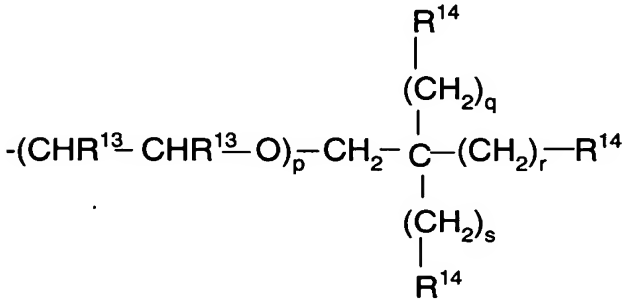


(V)

wherein Z^1, Z^2 and Z^3 are independently C_2-C_{18} alkanediyl or C_6-C_{20} arylene,

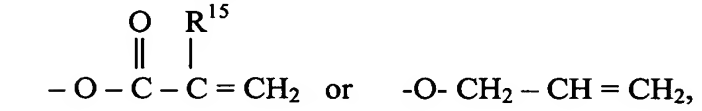
B^1, B^2 and B^3 are independently

$-(CHR^{13}-CHR^{13}-O)_p-CH_2-CH=CH_2$ or a fragment represented by formula (Va)



(Va)

wherein R^{13} is independently a hydrogen atom or $-CH_3$ and p is 0 or an integer from 1-10, each R^{14} is independently a hydrogen atom,



R^{15} is a hydrogen atom or C_1–C_{12} alkyl and

q, r and s independently of each other are 0 or 1,

with the proviso that for B^1, B^2 and B^3 at least one R^{14} is not a hydrogen atom if B^1, B^2 and B^3 are all a fragment represented by formula (Va), and

(e) a solvent or solvent mixture; and

(f) optionally at least one metallocene.

25. (previously presented) The radiation-sensitive composition according to claim 24, additionally comprising at least one further component comprising a free-radical polymerizable monomers, oligomers, or prepolymers that are different from monomer (a) of the radiation-sensitive composition, alkali-soluble binders, thermopolymerization inhibitors, dyes, plasticizers, chain transfer agents, leuco dyes, inorganic fillers or surfactants.

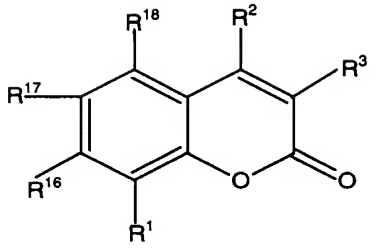
26. (currently amended) A process for the production of a radiation-sensitive element as defined in claim 15 comprising:

(a) providing an aluminum substrate pretreated by electrochemical roughening and thereafter optionally anodizing or applying a hydrophilizing layer or both, wherein the electrochemical roughening is carried out with a hydrochloric acid electrolyte or an electrolyte consisting essentially of hydrochloric acid;

(b) applying a radiation-sensitive, free radical-producing composition comprising

(1) at least one free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group,

(2) at least one sensitizer represented by formula (I) and that, when exposed to imaging radiation and only in the presence of a co-initiator, forms free radicals,



(I)

wherein

(i) R^1, R^{16}, R^{17} and R^{18} are independently a hydrogen atom, a halogen atom, C_1-C_{20} alkyl, -OH, -O-R^4or –NR^5R^6, wherein R^4 is C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and R^5 and R^6 are independently a hydrogen atom or C_1-C_{20} alkyl, or

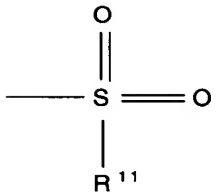
(ii) R^1 and R^{16}, R^{16} and R^{17}, or R^{17} and R^{18} together form a 5- or 6-membered heterocyclic ring with a N or O heteroatom, in one or both positions adjacent to the phenyl ring, or

(iii) R^1, R^{16} and R^{17} form two adjacent 5- or 6-membered heterocyclic rings with a N or O heteroatom, in a position adjacent to the phenyl ring,

wherein each formed 5- or 6-membered heterocyclic ring can independently be substituted with one or more C_1-C_6 alkyl groups,

with the proviso that at least one of R^1, R^{16}, R^{17} and R^{18} is not a hydrogen atom or C_1-C_{20} alkyl;

R^2 is a hydrogen atom, C_1-C_{20} alkyl, C_5-C_{10} aryl or C_6-C_{30} aralkyl and R^3 is hydrogen atom, -COOH, -$COOR^7$, -COR^8, -$CONR^9R^{10}$, -CN, C_5-C_{10} aralkyl, a 5- or 6-membered heterocyclic ring, -CH=CH-R^{12} or

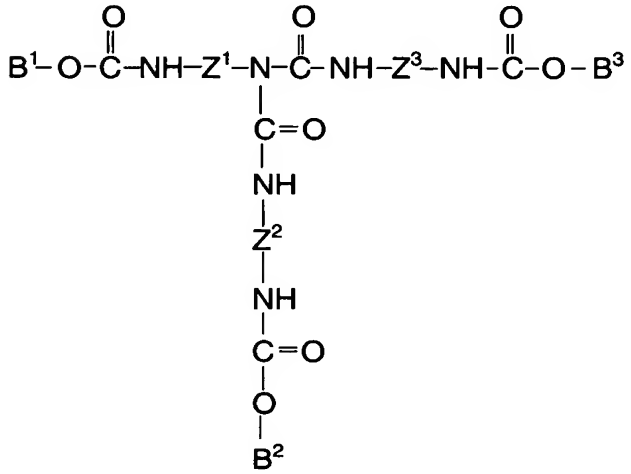


wherein R^7 is C_1-C_{20} alkyl, R^8 is C_1-C_{20} alkyl or a 5- or 6-membered heterocyclic ring, R^9 and R^{10} are independently a hydrogen atom or C_1-C_{20} alkyl, R^{11} is C_1-C_{12} alkyl, or C_1-C_{12} alkenyl, a heterocyclic non-aromatic ring or C_5-C_{20} aryl optionally including an O, S or N heteroatom, and R^{12} is C_5-C_{10} aryl or a 5- or 6-membered heterocyclic, optionally aromatic, ring;

or R^2 and R^3, together with the carbon atoms to which they are bonded, form a 5- or 6-membered, optionally aromatic, ring;

(3) at least one onium compound, hexaarylbiimidazole compound, or trihalogenomethyl compound as a coinitiator that is unable to absorb imaging radiation, but in the presence of said sensitizer that is exposed to imaging radiation, forms free radicals;

(4) at least one biuret oligomer represented by formula (V)

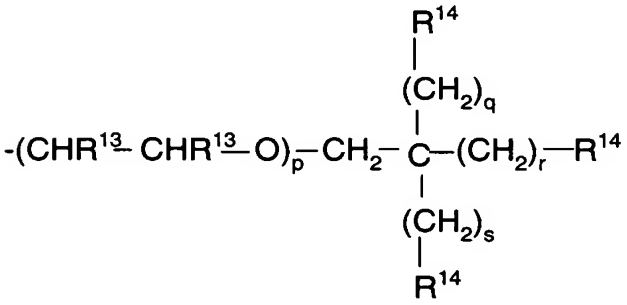


(V)

wherein Z^1, Z^2 and Z^3 are independently C_2-C_{18} alkanediyl or C_6-C_{20} arylene,

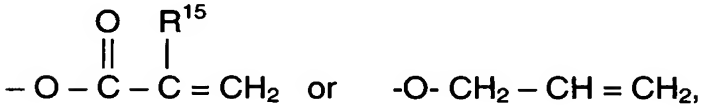
B^1, B^2 and B^3 are independently

$-(CHR^{13}-CHR^{13}-O)_p-CH_2-CH=CH_2$ or a fragment represented by formula (Va)



(Va)

wherein R^{13} is independently a hydrogen atom or $-CH_3$ and p is 0 or an integer from 1-10, each R^{14} is independently a hydrogen atom,



R^{15} is a hydrogen atom or C_1–C_{12} alkyl and

q, r and s independently of each other are 0 or 1,

with the proviso that for each B^1, B^2 and B^3 at least one R^{14} is not a hydrogen atom if B^1, B^2 and B^3 are all a fragment represented by formula (Va), and

(5) a solvent or solvent mixture; and

(6) optionally at least one metallocene.

(c) drying; and

(d) optionally applying an oxygen-impermeable overcoat and drying.

27. (previously presented) The printing form produced by the process according to claim 23.